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SCIENCE CONTRIBUTIONS.

BULLETIN No. 4, 1901.

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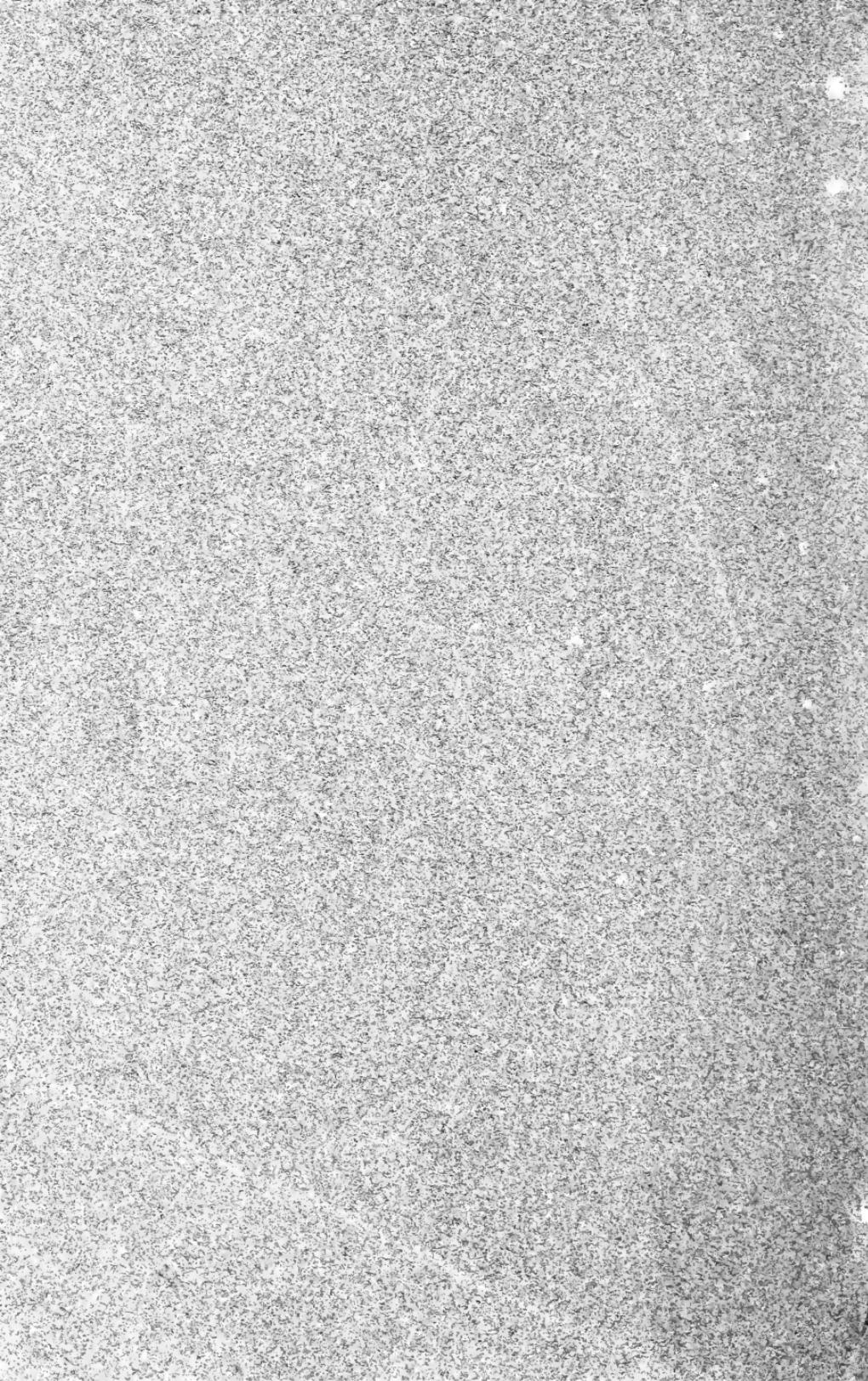
Tuskegee Normal and Industrial
Institute, Tuskegee, Ala.

SOME CERCOSPORAE OF
MACON COUNTY, ALA.

REVISED AND REPRINTED FROM THE REPORT
OF THE IOWA ACADEMY OF SCIENCE 1899.

G. W. CARVER, M. S. Ag., Director.

Tuskegee Institute Steam Print,
Tuskegee, Ala., 1901.



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The Tuskegee Experiment Station.

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Some Cercosporae of Macon Co., Alabama.

G. W. CARVER, M. S. AG., DIRECTOR.

The wide distribution and the economic importance of the Cercospora in this county has prompted the writing of this paper. This list by no means represents all of the species of this county, as no special effort has been made to collect Cercospora only. These collections were made while passing to and from other duties. With few exceptions, the species were collected in the immediate vicinity of Tuskegee.

The exceedingly warm and humid atmosphere, together with the very remarkable fluctuations of climate and rapid development of fungus diseases under these favorable conditions, has made the study doubly interesting. It is quite apparent that from year to year, by careful co-operation, much valuable information will be brought to light. None of our imperfect fungi have been worked over more carefully than the Cercosporae. I have consulted the following works, Ellis and Everhart,* whose work includes all of the North American species known to them when their work was written. Kellerman and Swingle† for the descriptions of several new species. There are also descriptions of other species in the same journal.

Full descriptions of many Alabama species occur in Prof. George F. Atkinson's paper on the Cercosporae‡ of Alabama. Saccardo § in his great work on fungi describes all of the species known to him.

Descriptions of new and interesting Southern species were made by Underwood and Earle.|| Numerous local lists of fungi, also recorded species from various localities. The following are some of the more important: Trelease,¶ Davis,** Webber,†† Tracy and Earle,†† Halsted.||| I wish to express my sincere grati-

* Jour. Myc. 1:17, 33, 49, 61. 4:1.

† Jour. Myc. 5:74.

‡ Some Cercospora from Alabama, from the Journal of Elisha Mitchell. Sci. Soc.

8: Separate.

§ Sylloge Fungorum.

|| Bull. Ala. Agr. Exp. Sta. 80: 141.

¶ Wis. Acad. Sci., Arts and Letters 6:106.

** A supplementary list Parasitic fungi of Wis. Acad. Sci., Arts and Letters 9:166.

†† Webber. Cat. Fl. Neb.

||| Tracy and Earle Bul. of Miss. Agr. Exp. Sta. 34:116-120. Bulletin 36:150-153.

||| Halsted, Bull. Dept. of Bot. Ia, State Coll. 1888:102-117.

tude to Prof. L. H. Pammel and Mr. J. B. Ellis, who have kindly examined many of the specimens for me.

Many species are included here that have but little or no economic value, but since they may become, in the process of plant evolution, more or less beneficial or destructive diseases, it is important to know them all.

In studying this group, one easily separates it into three divisions; true parasites, forming distinct spots in living tissues, saprophytic forms, which seem to attack only dead or languid foliage; facultative, which accommodate themselves to both living and dead tissues. The spores of the second division are somewhat abnormally long and hyaline, giving a frosty appearance to the host when present in large numbers. I have arranged the specimens alphabetically:

- C. ACALYPHE, Peck. On leaves of *ACALYPHA OSTRYEFOLIA* and *A. GRACILENS*. No. 89.
- C. AGERATOIDES, Atks. On leaves of *EUPATORIUM VERBENEFOLIUM*. No. 18.
- C. ALABAMENSIS, Atks. Abundant and destructive to the foliage of *IPOMEA PURPUREA* No. 68.
- C. ALTHÆINA, Sacc. Abundant and destructive to leaves of cultivated hollyhock, (*ALTHEA ROSEA*). No. 68.
- C. ALTHÆINA VAR. MODIOLÆ, Atk. On leaves of *MODIOLA MULTIFIDA*. No. 0.
- C. AMPELOPSIDIS, Pk. On leaves of *AMPELOPSIS QUINQUEFOLIA*. No. 32.
- C. APII, Fres., VAR. PASTINACEÆ, Farl. Very abundant and destructive, completely destroying the foliage of the cultivated parsnip, (*PASTINACA SATIVA*). No. 5.
- C. ASCLEPIDORA, Ell. & Kell. Frequent on the leaves of *ASCLEPIAS-TUBEROSA*. No. 80.
- C. ATROMACULANS, E. & E. On the leaves, stems and fruit of *CASSIA TORA*. No. 94.
- C. ASIMINÆ, E. & K. Abundant and destructive to leaves of *ASIMINA* sp. No. 92.
- C. AVICULARIS, Wint. Common on leaves of *POLYGONUM AVICULARE*. No. 520.
- C. BETICOLA, Sacc. Destructive to leaves of the common garden beet, (*BETA VULGARIS*).

- C. BOLEANA, (Thuem.) Speg. Seriously injuring the leaves of cultivated figs, (*FICUS CARICA*). No. 3.
- C. BRUNKII, Ell & Gall. Abundant on leaves of *PELARGONIUM GRAVEOLENS*. No. 99.
- C. CALICARPE, Cke. Abundant and destructive to leaves of *CALICARPA AMERICANA*. No. 15.
- C. CANESCENS, E. & M. Very abundant on the leaves, stems and fruit of the common garden bean, (*PHASEOLUS VULGARIS*), No. 52. Cabbage, (*BRASSICA OLERACEA*); No. 681. Soja bean, (*GLYCENE HISPIDA*); No. 674. Common tomato, (*LICOPERSICUM ESCULENTUM*); No. 3. Castor oil plant, (*RICINUS COMMUNIS*); No. 751.
- C. CAULICOLA, Wint. Does injury to leaves and stems of the common asparagus, (*ASPARAGUS OFFICINALIS*). No. 127.
- C. CERCIDICOLA, Ell. Very abundant on leaves of *CERCIS CANADENSIS*. No. 31.
- C. CERASELLA, Sacc. Common on leaves of cultivated cherries, (*PRUNUS CERASUS*). No. 33.
- C. CLITORIA, Atks. Common on leaves of *CLITORIA VIRGINIANA*, No. 57.
- C. CONSOCIATA, Wint. Common on leaves of *RUELLIA CILIOSA*. No. 66.
- C. CROTONIFOLIA, Cke. Abundant on leaves of *CROTON GLANDULOSUS*. No. 92.
- C. CRUCIFERARUM, E. & E. Common on leaves of the common garden radish, (*RAPHANUS SATIVA* No. 40, and dead leaves of *BRASSICA OLERACEA* (Collard and Cabbage). This seems to be a strongly developed form of this polymorphic species. No. 74.
- C. CUCURBITÆ, E. & E. Abundant on leaves of watermelon, (*CITRULLUS VULGARIS*), No. 17; cushaw, (*CUCURBITA* sp.), No. 1; dipper gourd, flat gourd and bottle gourd, (*LAGENARIA VULGARIS*); Nos. 9, 10, 48; pie melon and citron. During the past season this fungus seriously affected the foliage of all these plants.
- C. CLAVATA, (Gerard). Cke. Sparingly found on *ASCLEPIAS OBTUSIFOLIA*. No. 338.
- C. DAVIDSII, E. & E. Very destructive to foliage of sweet clover, (*MELILOTUS ALBA*). No. 69.

- C. DIODIE, Cke. Abundant on the foliage of DIODIA TERES. No. 81.
- C. DIOSPYRI, Thuem. Very abundant and destructive to the leaves of young persimmon plants, (DIOSPYRUS VIRGINIANA). The leaves curl up similar to the curling caused by powdery mildew of the cherry. No. 60.
- C. DOLICHI, E. & E. Completely defoliates the common cowpea (DOLICHOS SINENSIS) in poorly cultivated soil. No. 87.
- C. ELEPANTOPODIS, E. & E. Abundant on leaves of ELEPHANTOPUS CAROLINIANUS, No. 25, and E. NUDATUS. No. 72.
- C. EUPATORIA, Pk. Not uncommon on leaves of EUPATORIUM ROTUNDIFOLIUM. No. 35.
- C. ERYTHROGENA, Atks. Common on leaves of RHEXIA MARIANA. No. 61.
- C. FUSCOVIRENS, Sacc. Very abundant and destructive to leaves of PASSIFLORA INCARNATA, No. 49, and P. LUTEA. No. 46.
- C. FLAGELLARIS, E. & M. On leaves of PHYTOLACA DECANDRA. No. 29.
- C. GLANDULOSA, Ell & Kell. Common on young plants of ATLANTHUS GLANDULOSUS. No. 21.
- C. GOSSYPINA, Cke. Very abundant and destructive to the leaves, stems and fruit of the cotton plant, (GOSSYPIUM HERBACEUM), especially in fields where the plants were poorly nourished. No. 6.
- C. GRANULIFORMIS, Ell & Hall. Common on leaves of VIOLA CUCULLATA. No. 38.
- C. HIBISCI, F. & E. Locally abundant on leaves of okra (HIBISCUS ESCULENTUS). No. 73.
- C. HYDRANGEÆ, E. & E. Common on leaves of cultivated HYDRANGEA. No. 71.
- C. HYDROCOTYLES, E. & E. Common and destructive to the foliage of HYDROCOTYLE CANBYI, No. 41, and H. AMERICANA. No. 93.
- C. HYDROPIPERIS, (Thuem.) Speg. Abundant and destructive to leaves of POLYGONUM PENNSYLVANICUM. No. 37.
- C. ILICIS, Ell. Common on foliage of ILEX GLABRA. No. 125.
- C. JATROPHÆ, Atk. Abundant and destructive to foliage of CNIDOSCOLUS STIMULOSUS. No. 51.

- C. LIQUIDAMBARIS, C. & E. Abundant and destructive to the foliage of sweet gum, (*LIQUIDAMBAR STYRACIFLUA*). No. 23.
- C. LUCOSTICTA, E. & E. Common on leaves of the chinaberry, (*MELIA AZEDARACH*). No. 7.
- C. MALI, E. & E. Very abundant and destructive to foliage of *PYRUS ARBUTIFOLIA* Var. *ERYTHROCARPA*. No. 55.
- C. MORICOLA, Cke. Abundant on leaves of the red mulberry, (*MORUS RUBRA*). No. 116.
- C. OCCIDENTALIS, Cke. Very destructive to foliage of *CASSIA OCCIDENTALIS*. No. 86.
- C. OLIVACEA (B. & K.), Ell. Locally abundant and destructive to leaves of *GLEDITSCHIA TRIACANTHOS*. No. 123.
- C. PASSALOROIDES, Winter. Abundant on leaves of *AMORPHA FRUTICOSA*. No. 65.
- C. PERSONATA (B. & C.), Ell. Seriously injuring the foliage and stems of the peanut (*ARACHIS HYPOGEA*). No. 8.
- C. PLANTAGINIS, Sacc. Common on leaves of *PLANTAGO LANCEOLATA*. No. 44.
- C. POPULINA, Ell. & Ev. Completely defoliates young trees of *POPULUS DILATATA*. No. 2.
- C. PRENANTHIS, Ell. & Kell. Common on *PRENANTHES CREPIDINEA*. No. 50.
- C. PRUNICOLA, Ell & Ev. Common on leaves of certain species of plums, (*PRUNUS AMERICANA*). No. 79.
- C. RHUINA, C. & E. Abundant on leaves of *RHUS COPALLINA*, *R. PUMILA*, *R. TOXICODENDRON*, *R. GLABRA*, and *R. AROMATICA*, *R. VERNIX* and *R. COTINUS*. Nos. 22, 112, 82, 107, 726.
- C. RICHARDICOLA, Atks. Common on potted plants of the calla lily, (*RICHARDIA AFRICANA*). No. 90.
- C. RICINELLA, Sacc. & Berl. Quite abundant on fading leaves of *RICINUS COMMUNIS*. No. 4.
- C. ROSICOLA, Pass. Frequent on leaves of cultivated roses. No. 124.
- C. RUBI, Sacc. Abundant on leaves of wild blackberries, (*RUBUS CANADENSIS*), No. 28, (*R. OCCIDENTALIS*), No. 543, and (*R. TRIVIALIS*) No. 544.
- C. RIGOSPORA, Atks. Locally abundant on leaves of the common nightshade, (*SOLANUM NIGRUM*). No. 484.

- C. SAGITTARLE, E. & K. Abundant on leaves of *SAGITTARIA VARIABILIS*. No. 30.
- C. SERPENTARIA, Ell. & E. Not uncommon on leaves of *ARISTOLOCHIA SERPENTARIA*. No. 53.
- C. SMILACIS, Thuem. This species does serious injury to the foliage of several species of wild smilax. No. 36.
- C. SORDIDA, Sacc. Very abundant on leaves of *TECOMIA RADICANS*. No. 106.
- C. SORGHI, E. & E. Very abundant, seriously affecting the foliage, stems and sheaths of *SORGHUM VULGARE*, No. 16, and the blades and sheaths of *ZEA MAIS*. No. 45.
- C. STYLOMEL, T. & E. Abundant on *BREWERIA HUMISTRATA*. No. 59.
- C. SQUALIDULA, Pk. Abundant on leaves of *CLEMATIS VIORNA*. No. 457.
- C. SILPHII, E. & E. Sparingly found on leaves of *SILPHIUM COMPOSITUM*. No. 650
- C. TRUNCATELLA, Atks. Common on leaves of *VERBENA CAROLINIANA*. No. 61.
- C. TUBEROSA, E. & K. Abundant and destructive to the foliage of *APIOS TUBEROSA*. No. 84.
- C. VERNONLE, E. & K. Common on leaves of *VERNOMIA ANGUSTIFOLIA*. No. 119.
- C. VIOLE, Sacc. Abundant on leaves of *VIOLA ODORATA*, No. 70, and *V. CUCULATA*. No. 640.
- C. VITICOLA (Ces.), Sacc. Completely defoliates in late fall, the vines of *VITIS LABRUSCA*. Also found on other species of wild grape.

